

LARGE SYSTEM USER REQUIREMENTS

1990

INPUT

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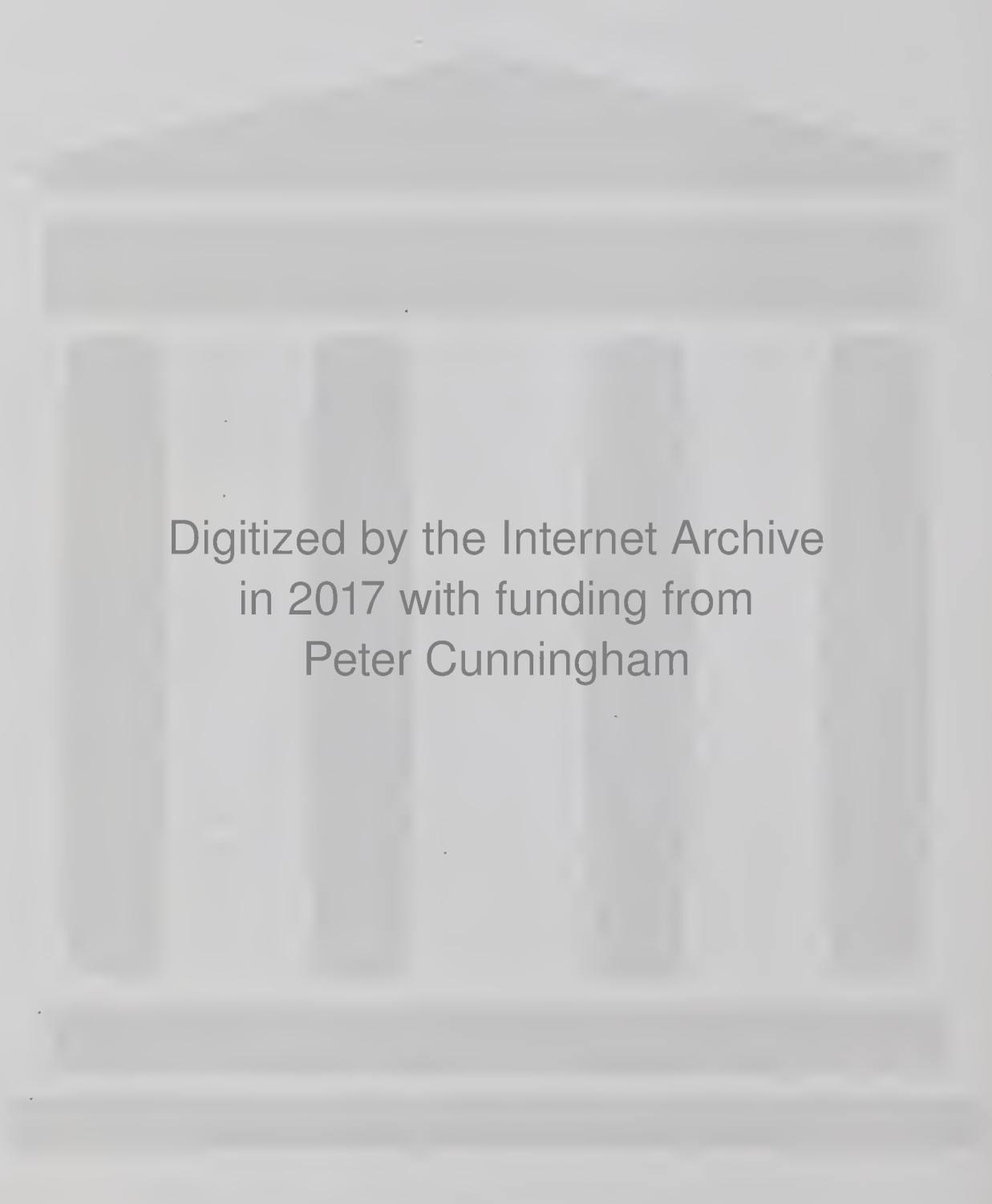
Abstract

This report analyzes large system user requirements for and satisfaction with service and support. The following large systems are analyzed in the report: Amdahl, Control Data Corporation, BULL HN, IBM, and NCR. Each individual user group is analyzed separately as well as by group to provide an overall comparison.

Each individual vendor/product analysis begins with the service contract coverage. Next, it covers the user's criteria for selecting a service vendor who provides hardware maintenance, and what the perceptions of independent maintenance companies are. The traditional areas of system availability, response time, and repair time are presented. Software support is analyzed in the same manner, examining the software maintenance provider, the type of contract, and response/fix times for software problems. Opportunities for other services are presented, examining how many respondents are currently contracted for selected services and the propensity of the others to expand their contract for additional services. The area of discounts is also examined, presenting discounts currently received and the attraction of users to discount programs.

The report is presented in three chapters. Chapter I provides an introduction to the report. Chapter II is the overview of the large systems sample. Chapter III provides individual analyses by product vendor. Appendix A presents the questionnaire used for the research.

The report contains 80 pages, including 100 exhibits.



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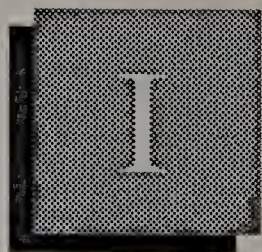
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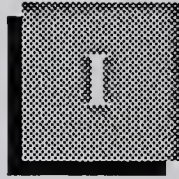
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Introduction





Introduction

This report presents large system user requirements for and the satisfaction with their service and support. The report also analyzes the user's requirement for other ancillary services and includes data from the Western European report *User Satisfaction—Large Systems, 1990* for comparison purposes.

A

Scope

The report analyzes the service requirements of users of the following large systems: Amdahl, Control Data Corporation, BULL HN, IBM, and NCR. Exhibit I-1 provides a breakdown of the manufacturers included in the U.S. sample and the Western European sample.

Each individual vendor/product analysis begins with the service contract coverage. Next, it covers the user's criteria for selecting a service vendor, who provides hardware maintenance, and the perceptions of independent maintenance companies. The traditional areas of system availability, response time, and repair time are presented. Software support is analyzed in the same manner, with examination of the software maintenance provider, the type of contract, and response/fix times for software problems. Opportunities for other services are presented, examining how many respondents are currently contracted for selected services and the propensity of the others to expand their contract for additional services. The area of discounts is also examined, presenting discounts currently received and the attraction of users to discount programs.

The report is presented in three chapters. Chapter I provides an introduction to the report. Chapter II is the overview of the large systems sample. Chapter III provides individual analyses by product vendor. Appendix A provides the questionnaire used for the research.

EXHIBIT I-1

User Sample by Vendor

	U.S.	W. Europe
Amdahl	14	0
BULL HN	19	7
CDC	12	0
DEC	0	27
IBM	31	43
ICL	0	30
NCR	21	6
Siemens	0	5
Unisys	0	17
Wang	0	20
Other Vendors	1	3
Total	98	158

B**Methodology**

For this report, INPUT surveyed 98 users of large systems in the U.S. and 158 in Western Europe as to their requirement for and satisfaction with the service that they receive. Each of the interviews was conducted by telephone using the questionnaire in Appendix A. INPUT targets the appropriate systems executive at each company; typical titles include Data Processing Manager, IS Director or Manager, or Vice President of IS. Companies are from a wide range of industries, as shown in Exhibit I-2.

EXHIBIT I -2

Distribution by Industry Sector

	U.S.	W. Europe
Manufacturing	28	29
Distribution	8	9
Transportation	1	4
Utilities	0	2
Banking/Finance	3	36
Insurance	5	6
Government	24	11
Services	9	28
Other	20	33
Total Sample	98	158

INPUT emphasizes the value of telephone interviews over other types of research-gathering practices because of the ability to focus the respondent and control the source of information and the size of the sample.

After the data gathering process is complete, the information is entered into a dBase III Plus (Ashton-Tate) data base and analyzed using ABstat (Anderson Bell). Quality control is applied at each step to ensure data integrity.

C**Interpretation of the Data**

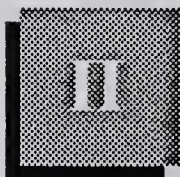
Mean values are used throughout the tabulated data presented in this report. These mean values refer to the mean value of user ratings for specific aspects of service performance or the mean value of a range of service performance required or received by the respondents.

In this report, the ratings for service requirements and satisfaction ranged from 0 to 10, with 0 equal to a very low requirement or satisfaction and 10 being an extremely high requirement or very high satisfaction.



U.S. Service Performance Data





U.S. Service Performance Data

In this chapter, the overall large systems sample is presented.

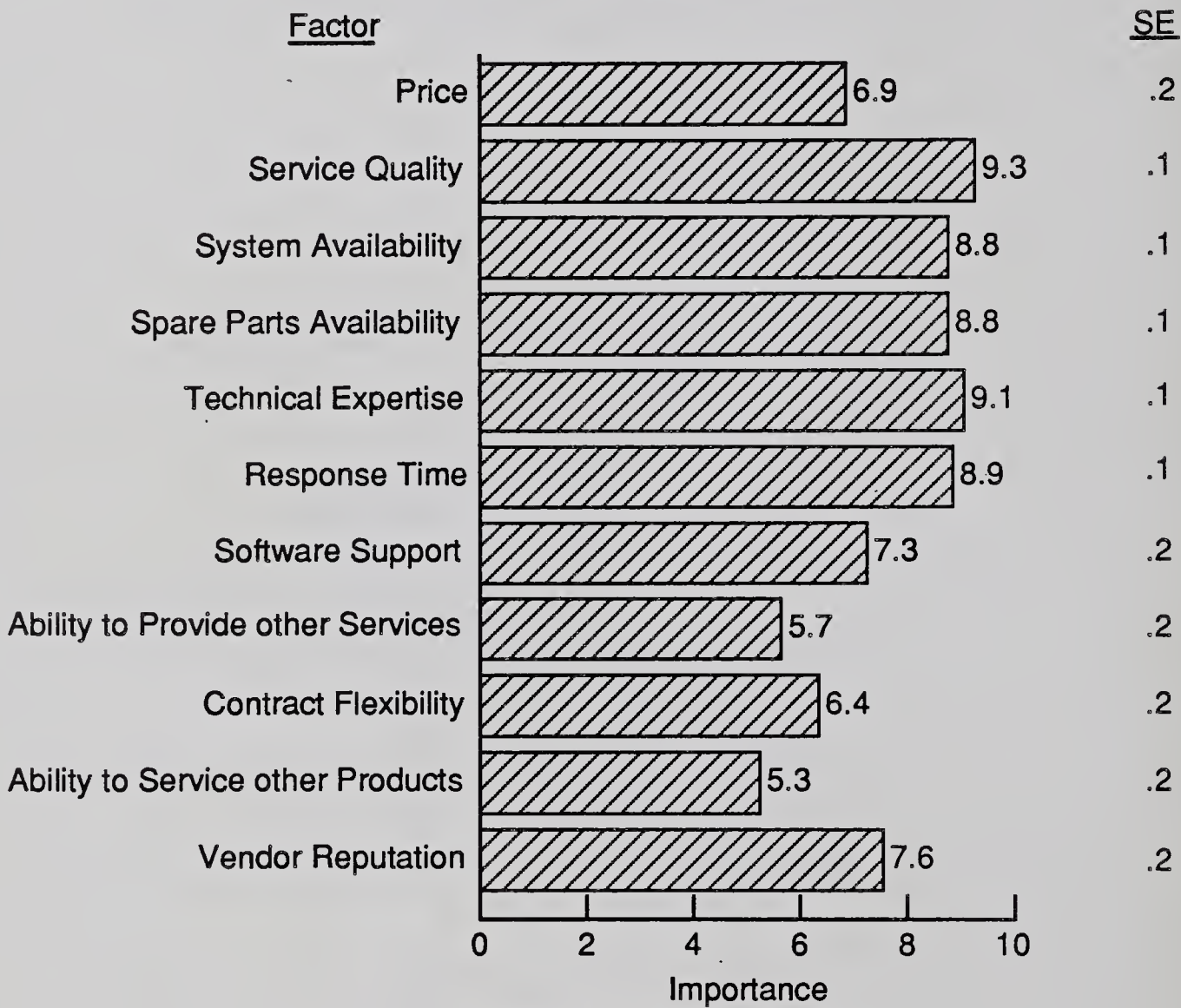
EXHIBIT II-1

Contract Coverage All Large Systems		
	1990 Percent of Sample	1989 Percent of Sample
<u>Days Covered</u>		
Monday - Friday	47	45
Monday - Saturday	4	1
Monday - Sunday	49	54
<u>Hours Covered</u>		
1 - 9	35	41
10 - 16	13	6
17 - 24	52	53

- Exhibit II-1 looks at the contract coverage utilized by the sample and compares it to the contract coverage of the 1989 large systems sample.
- The service selection criteria are presented in Exhibit II-2.

EXHIBIT II-2

Service Vendor Selection Criteria
All Large Systems



SE: Standard Error of the Mean.

- Exhibits II-3 through II-5 present who provides the hardware maintenance for the sample and why the companies in the sample do or do not use independent maintenance organizations.

EXHIBIT II-3

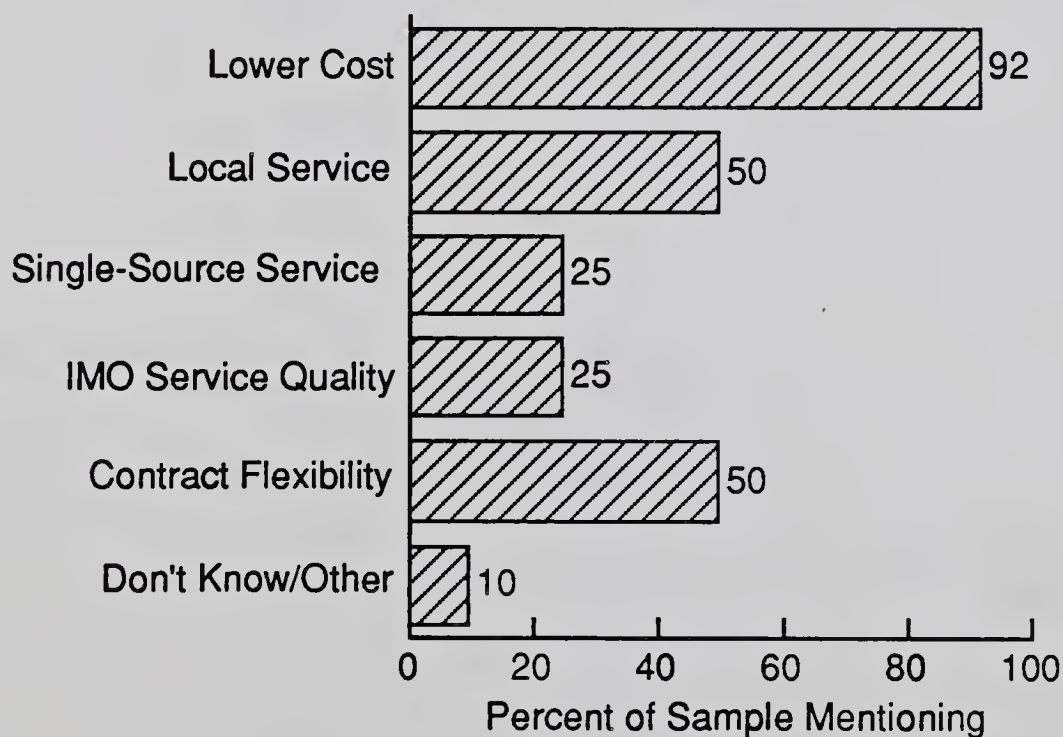
Hardware Maintenance Provider All Large Systems

	Percent of Mentions	
	U.S.	W. Europe
Manufacturer	90	90
Dealer/Distributor	0	3
Independent Maintenance Company	12	8
In-house	3	1
Other	0	0

Multiple Responses Allowed
Sample: 98 (U.S.), 158 (W. Europe)

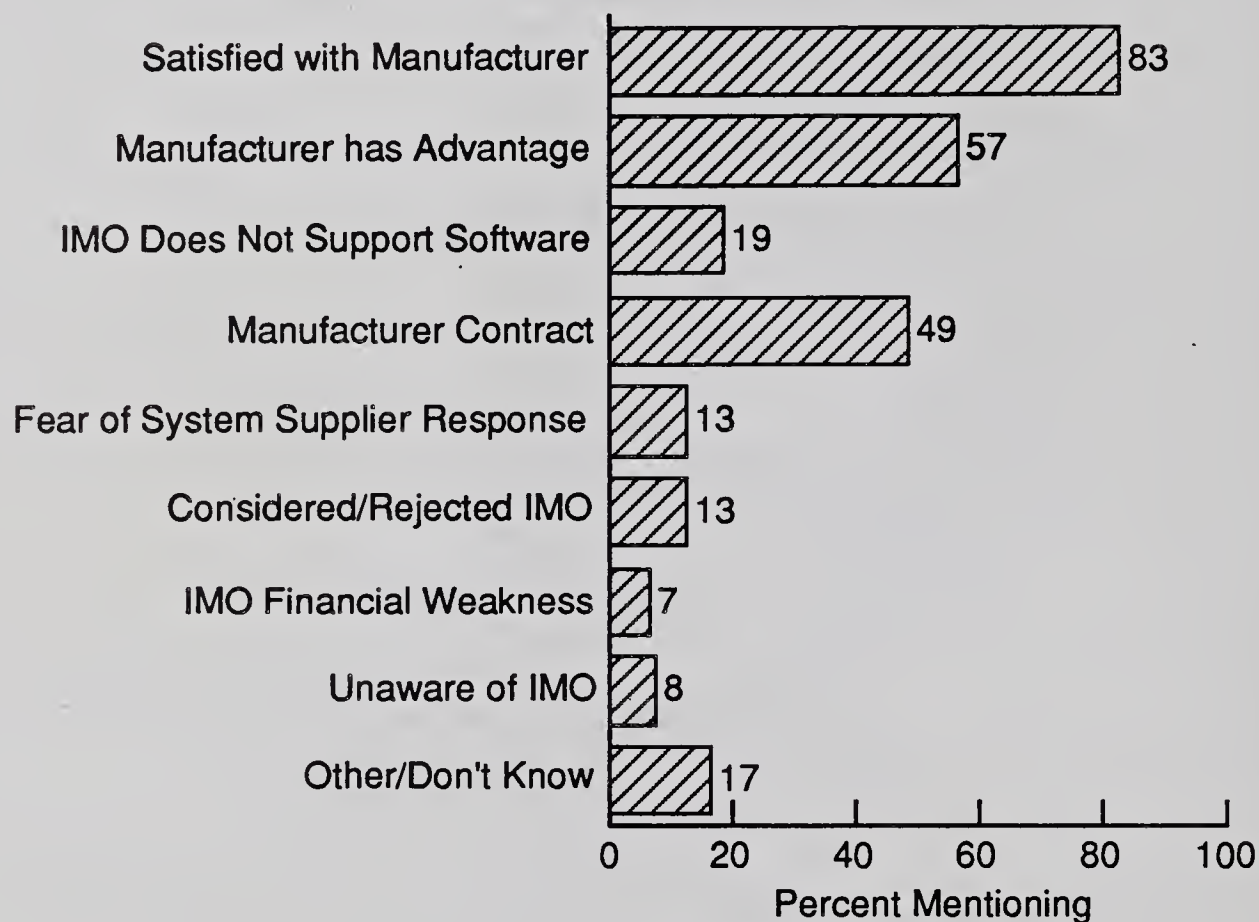
EXHIBIT II-4

Reasons for Independent Maintenance Company Use All Large Systems



Multiple Responses Allowed
Sample: 12

EXHIBIT II-5

**Reasons Independent Maintenance
Company Not Used
All Large Systems**

Multiple Responses Allowed
Sample: 98

- Exhibit II-6 presents the levels of discount required for the respondents to consider independent maintenance.
- The length of maintenance contract terms is shown in Exhibit II-7.

EXHIBIT II-6

Price Reduction Required to Consider IMO All Large Systems

Percent Discount	Percent of Respondents
1 - 10	1
11 - 20	13
21 - 30	24
31 - 40	7
41 - 50	11
50 +	3
Unwilling At Any Price	23
Other	18

EXHIBIT II-7

Maintenance Contract Terms All Large Systems

Hardware Maintenance	Percent of Respondents
Warranty	7
Three-Year	19
One-Year	47
Time & Materials	4
Other	22
None	1

- Traditional items of hardware maintenance are examined in Exhibits II-8 through II-10, showing system availability, system failure rates, and service required versus received.

EXHIBIT II-8

System Availability Performance Analysis All Large Systems			
	Mean Required	Mean Received	Percent Satisfied
System Availability (%)	98.3	97.7	66
Response Time (hrs)	1.8	1.8	86
Repair Time (hrs)	2.4	2.3	82

EXHIBIT II-9

System Failure Rates All Large Systems		
	U.S.	W. Europe
Mean Failures per Annum	2.5	3.7
<u>Cause of Failures</u> (Percent)		
Hardware	69	68
System Software	6	14
Application Software	4	3
Other	21	15

Sample Size: 98 (U.S.), 158 (W.Europe)

EXHIBIT II-10

Hardware Service Required versus Received All Large Systems

	Mean Ratings		
	Required	Received	Satisfaction
Spare Availability	8.9	8.5	8.6
Engineer Skills	9.1	8.7	8.8
Problem Escalation	8.4	8.5	8.6
Documentation	7.6	7.8	8.0
Remote Diagnosis	7.2	8.1	8.4

Note: Scale 0-10: 0=Lowest, 10=Highest Rating

- Software contracts and service are examined in Exhibits II-11 through II-14.

EXHIBIT II-11

Software Maintenance Provider All Large Systems

Provided By	Percent Mentioning	
	U.S.	W. Europe
Hardware Manufacturer	77	80
Software House	8	5
Software Product Vendor	26	1
Value-Added Reseller	3	1
In-House	42	15
Other	1	1

Multiple Responses Allowed

Sample Size: 98 (U.S.), 158 (W.Europe)

EXHIBIT II-12

Maintenance Contract Terms All Large Systems	
System Software Maintenance	Percent of Respondents
Included in Software License Fee	53
Three-Year	3
One-Year	24
Custom	12
None	8

EXHIBIT II-13

Software Problem Resolution All Large Systems	
Solved By Phone (%)	72.0
Elapsed Time (hrs)	8.3
<u>Other Problems</u>	
Response Time	
• Required (mean hrs)	13.4
• Received (mean hrs)	9.8
• Percent Satisfied	87.0
Fix Time	
• Required (mean hrs)	6.8
• Received (mean hrs)	4.9
• Percent Satisfied	84.0

EXHIBIT II-14

System Software Support Required versus Received All Large Systems

	Mean Ratings		
	Required	Received	Satisfaction
Engineer Skills	8.8	8.1	8.1
Documentation	8.4	7.6	7.8
Software Installation	7.5	7.7	7.8
Provision of Updates	8.2	7.9	8.0
Remote Diagnosis	7.2	7.7	7.9

Note: Scale 0-10: 0=Lowest, 10=Highest Rating

- Opportunities for other services for the maintenance vendors are given in Exhibit II-15, including the number of respondents currently contracting for the services, those requiring the services but not having them now, and the mean level of interest of respondents requiring the services.

EXHIBIT II-15

Opportunities for Other Services All Large Systems

	Number of Mentions		Mean Level of Interest
	Currently Contracted	Not Contracted But Require	
Configuration Planning	30	14	7.6
Capacity Planning	23	13	8.1
Environmental Planning	20	18	7.4
Cabling	33	11	7.6
Software Evaluation	17	19	7.3
Consulting	33	12	7.6
Network Planning	15	22	7.7
Network Management	11	18	8.1
Disaster Recovery	17	28	7.8
Facilities Management	5	10	8.3
Problem Management	17	9	6.3
Application Software Support	33	4	6.0

Sample: 92

- Discounts currently being received by the sample are shown in Exhibit II-16 and interest in discounts is shown in Exhibit II-17.

EXHIBIT II-16

Discounts Currently Received All Large Systems

Discount	Percent Receiving	Mean Percent of Discount
Multiyear	29	21
Prepayment	18	15
Call Screening/Problem Mgmt.	14	18
Deferred Response	5	20

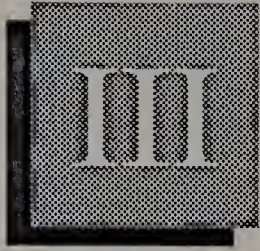
Sample: 98

EXHIBIT II-17

User Attraction to Discount Programs All Large Systems

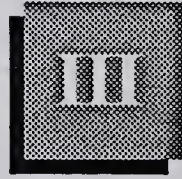
Discount	Willingness	Respondents
Multiyear	3.9	50
Prepayment	3.4	57
Call Screening/Problem Mgmt.	3.2	61
Deferred Response	2.4	71

Note: Scale 0-10: 0=Lowest, 10=Highest Rating



Vendor Performance Data





Vendor Performance Data

Chapter III presents the individual vendor/product analyses for Amdahl, BULL HN, CDC, IBM, and NCR large systems.

A

Amdahl

There are 14 respondents in the Amdahl large systems sample, representing users of Amdahl's 58XX and S9XX large systems.

- Exhibit III-1 presents the contract coverage of the Amdahl sample.
- Exhibit III-2 presents the selection criteria used by those in the Amdahl sample in selecting their maintenance vendors.
- Exhibit III-3 shows that almost all of the Amdahl sample is receiving their maintenance from the manufacturer. One respondent has a contract with an independent maintenance provider for the hardware maintenance.
- Exhibit III-4 presents the reasons for not using independent maintenance organizations as reported by the Amdahl sample, with Exhibit III-5 giving the price reductions required for the respondents to consider changing to independent maintenance.
- Maintenance contract terms are shown in Exhibit III-6.
- System availability and failure rates are presented in Exhibits III-7 through III-8.
- Exhibit III-9 shows fairly high mean ratings for service required versus received, with high satisfaction ratings from the respondents.
- Exhibits III-10 through III-11 present the providers of software maintenance to the user sample and the types of contracts held by the users.

- Software support required and received by the users is presented in Exhibits III-12 to III-13.
- Exhibit III-14 presents information on opportunities for other services currently contracted by the Amdahl sample and their propensity to expand services with their service providers.
- Discounts being received on the service contracts of the Amdahl user sample are shown in Exhibit III-15, with attraction to discount programs in Exhibit III-16.

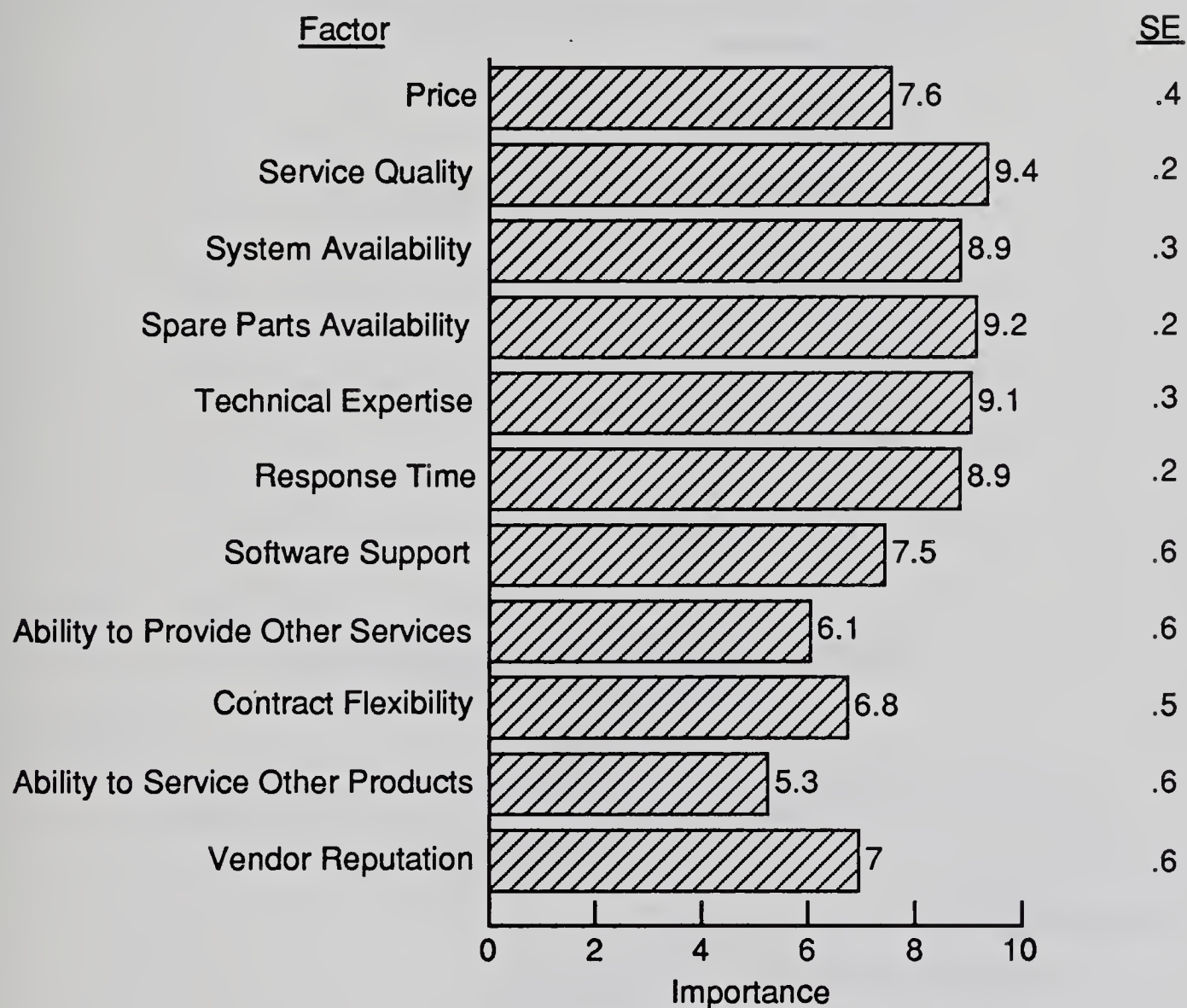
EXHIBIT III-1

Contract Coverage Amdahl

	1990 Percent of Sample
<u>Days Covered</u>	
Monday - Friday	7
Monday - Saturday	0
Monday - Sunday	93
<u>Hours Covered</u>	
1 - 9	7
10 - 16	0
17 - 24	93

EXHIBIT III-2

Service Vendor Selection Criteria Amdahl



SE: Standard Error of the Mean.

EXHIBIT III-3

Hardware Maintenance Provider Amdahl	
	Number of Mentions
Manufacturer	13
Dealer/Distributor	0
Independent Maintenance Company	1
In-house	0
Other	0

Multiple Responses Allowed
Sample: 14

EXHIBIT III-4

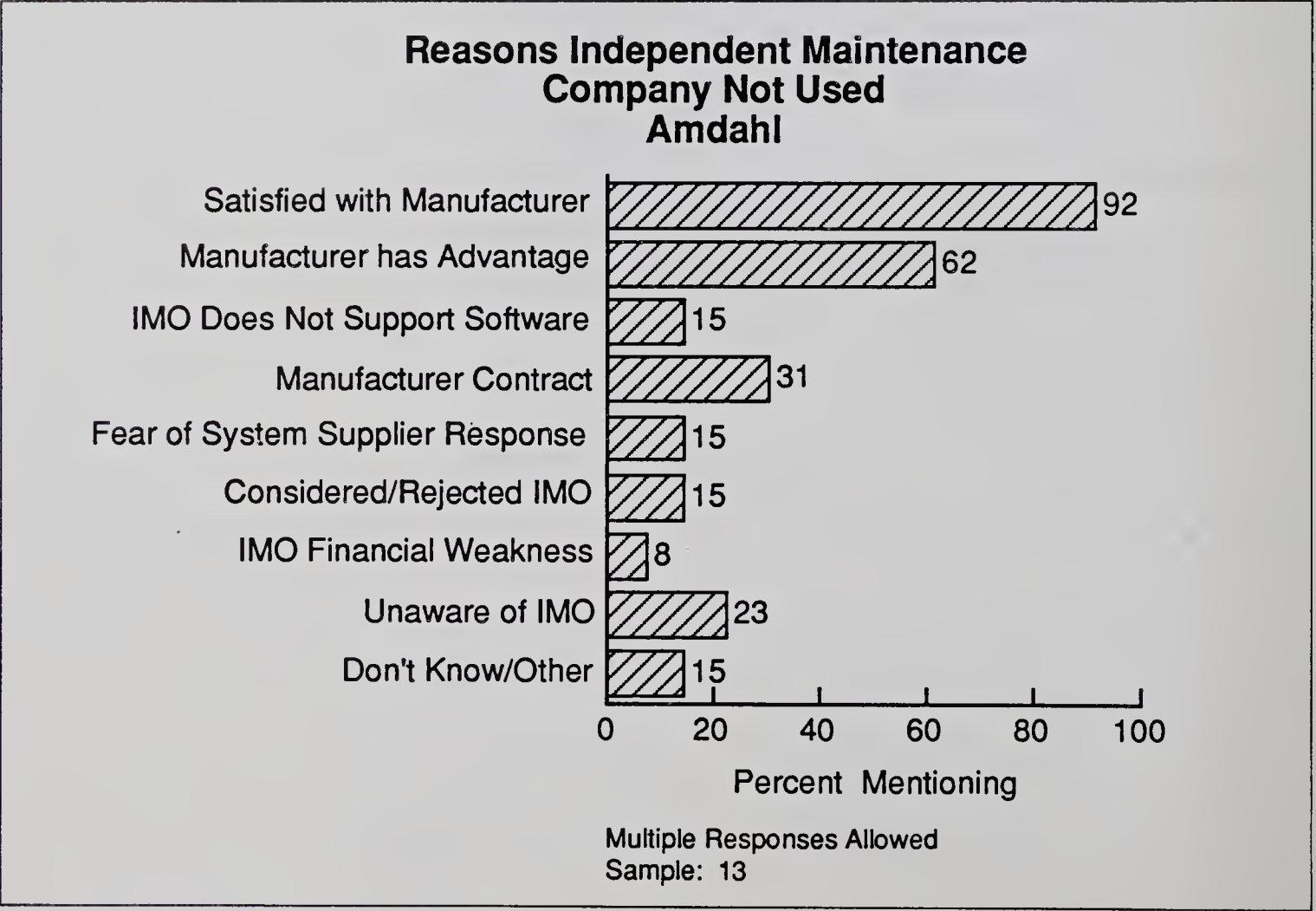


EXHIBIT III-5

Price Reduction Required to Consider IMO Amdahl

Percent Discount	Percent of Respondents
1 - 10	0
11 - 20	8
21 - 30	23
31 - 40	15
41 - 50	8
50 +	0
Unwilling At Any Price	31
Other	15

EXHIBIT III-6

Maintenance Contract Terms Amdahl

Hardware Maintenance	Percent of Respondents
Warranty	23
Three-Year	23
One-Year	39
Time & Materials	0
Other	15
None	0

EXHIBIT III-7

System Availability Performance Analysis Amdahl			
	Mean Required	Mean Received	Percent Satisfied
System Availability (%)	98.8	99.1	79
Response Time (hrs)	1.5	0.8	100
Repair Time (hrs)	2.1	1.4	100

EXHIBIT III-8

System Failure Rates Amdahl	
	U.S.
Mean Failures per Annum	0.6
<u>Cause of Failures</u> (Percent)	
Hardware	61
System Software	6
Application Software	0
Other	33
Sample Size: 14	

EXHIBIT III-9

Hardware Service Required versus Received Amdahl

	Mean Ratings		
	Required	Received	Satisfaction
Spare Availability	9.0	9.5	9.6
Engineer Skills	8.8	8.8	9.1
Problem Escalation	9.0	9.2	9.4
Documentation	8.1	8.8	8.9
Remote Diagnosis	7.8	8.8	9.0

Note: Scale 0-10: 0-Lowest, 10= Highest Rating

EXHIBIT III-10

Software Maintenance Provider Amdahl

Provided By	Percent Mentioning U.S.
Hardware Manufacturer	43
Software House	0
Software Product Vendor	71
Value-Added Reseller	0
In-House	29
Other	7

Multiple Responses Allowed
Sample: 14

EXHIBIT III-11

Maintenance Contract Terms Amdahl	
System Software Maintenance	Percent of Respondents
Included in Software License Fee	54
Three-Year	0
One-Year	31
Custom	0
None	15

Sample: 14

EXHIBIT III-12

Software Problem Resolution Amdahl	
Solved By Phone (%)	79.0
Elapsed Time (hrs)	5.2
<u>Other Problems</u>	
Response Time	
• Required (mean hrs)	9.6
• Received (mean hrs)	0.9
• Percent Satisfied	100.0
Fix Time	
• Required (mean hrs)	4.6
• Received (mean hrs)	3.0
• Percent Satisfied	83.0

EXHIBIT III-13

**System Software Support Required versus Received
Amdahl**

	Mean Ratings		
	Required	Received	Satisfaction
Engineer Skills	9.1	8.3	8.5
Documentation	8.4	8.0	8.2
Software Installation	7.8	7.8	7.7
Provision of Updates	8.5	8.2	8.3
Remote Diagnosis	8.3	7.9	8.1

Note: Scale 0-10: 0=Lowest, 10=Highest Rating

EXHIBIT III-14

Opportunities for Other Services Amdahl

	Number of Mentions		Mean Level of Interest
	Currently Contracted	Not Contracted But Require	
Configuration Planning	3	2	9.0
Capacity Planning	2	3	7.3
Environmental Planning	2	3	7.0
Cabling	4	2	9.0
Software Evaluation	0	4	7.3
Consulting	3	2	7.0
Network Planning	2	5	7.8
Network Management	0	4	6.5
Disaster Recovery	1	5	7.8
Facilities Management	0	2	8.5
Problem Management	1	3	6.7
Application Software Support	2	1	5.0

Sample: 14

EXHIBIT III-15

Discounts Currently Received Amdahl

Discount	Percent Receiving	Mean Percent of Discount
Multiyear	13	5.0
Prepayment	13	30.0
Call Screening/Problem Mgmt.	25	9.5
Deferred Response	13	20.0

EXHIBIT III-16

User Attraction to Discount Programs Amdahl

Discount	Willingness	Respondents
Multiyear	3.0	9
Prepayment	3.0	9
Call Screening/Problem Mgmt.	2.1	8
Deferred Response	2.6	9

Note: Scale 0-10: 0-Lowest, 10= Highest Rating

B**BULL HN**

There are 19 large systems users in the BULL HN sample, representing users of the DPS mainframes.

- Exhibit III-17 presents the contract coverage of the BULL sample.
- Exhibit III-18 presents the selection criteria used by the sample in selecting their maintenance vendors.
- Exhibit III-19 shows that all in the BULL sample receive their maintenance from the manufacturer.
- Exhibit III-20 presents the reasons for not using independent maintenance organizations as reported by the BULL sample, with Exhibit III-21 giving the price reductions required for the respondents to consider changing to independent maintenance. A high percent of the sample—79%—reported that they are satisfied with the service that they receive from the manufacturer.
- Maintenance contract terms are shown in Exhibit III-22.
- System availability and failure rates are presented in Exhibits III-23 and III-24. Failure rates were very similar for the U.S. sample and the Western European sample.
- Exhibit III-25 shows mean hardware service requirements slightly higher than the mean service ratings received.
- Exhibits III-26 and III-27 present the providers of software maintenance to the user sample and the types of contracts held by the BULL HN users.
- Software support required and received by the users is presented in Exhibits III-28 and III-29. Software response and fix times received are less than those required, with high satisfaction percentages.
- Exhibit III-30 presents information on other services currently contracted by the BULL sample and the level of interest in expanding services with their service providers.
- Discounts being received on the service contracts of the BULL user sample are shown in Exhibit III-31, with user attraction to discount programs presented in Exhibit III-32.

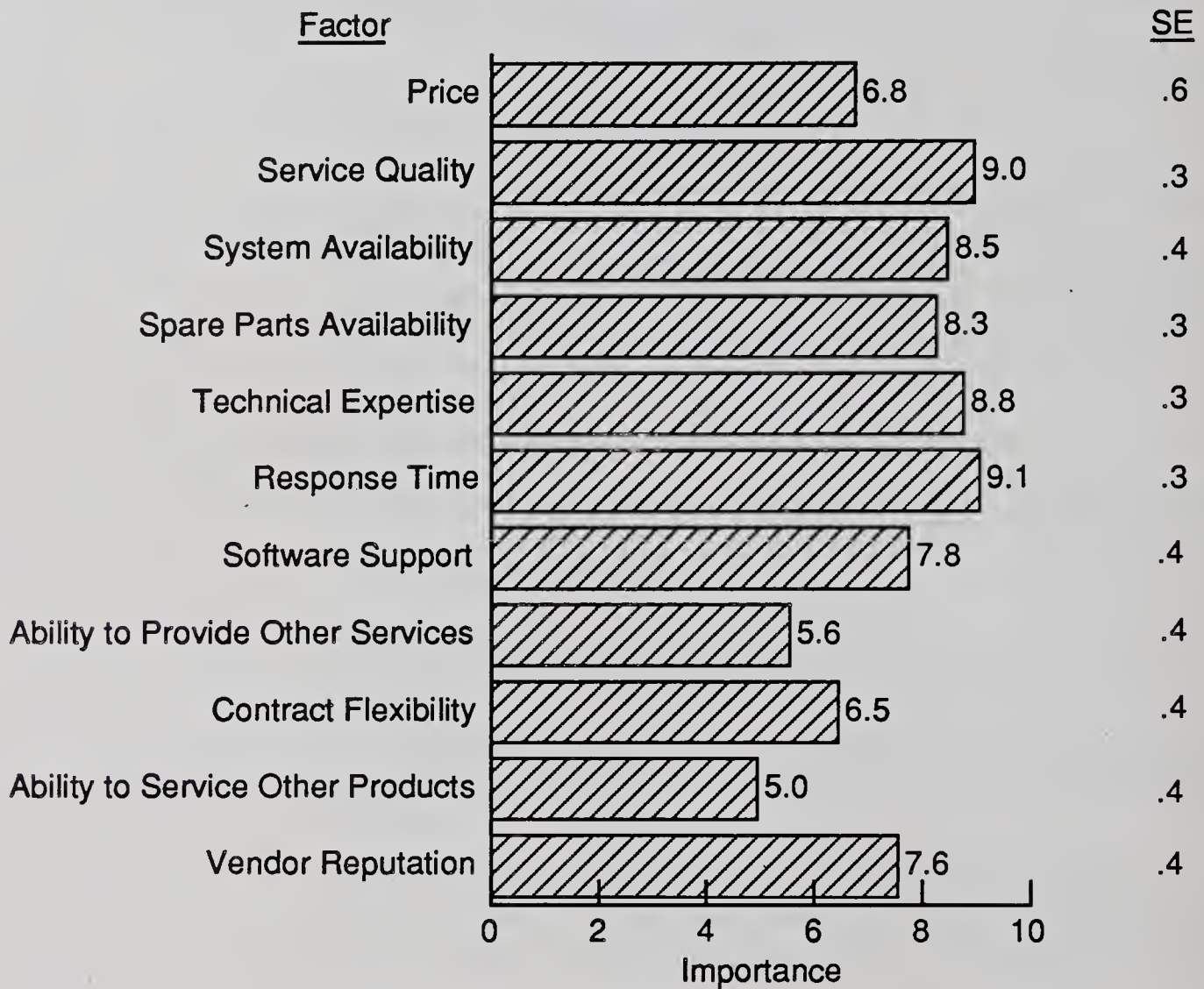
EXHIBIT III-17

Contract Coverage BULL HN

	1990 Percent of Sample	1989 Percent of Sample
<u>Days Covered</u>		
Monday - Friday	90	76
Monday - Saturday	5	0
Monday - Sunday	5	24
<u>Hours Covered</u>		
1 - 9	53	72
10 - 16	42	16
17 - 24	5	12

EXHIBIT III-18

Service Vendor Selection Criteria BULL HN



SE: Standard Error of the Mean.

EXHIBIT III-19

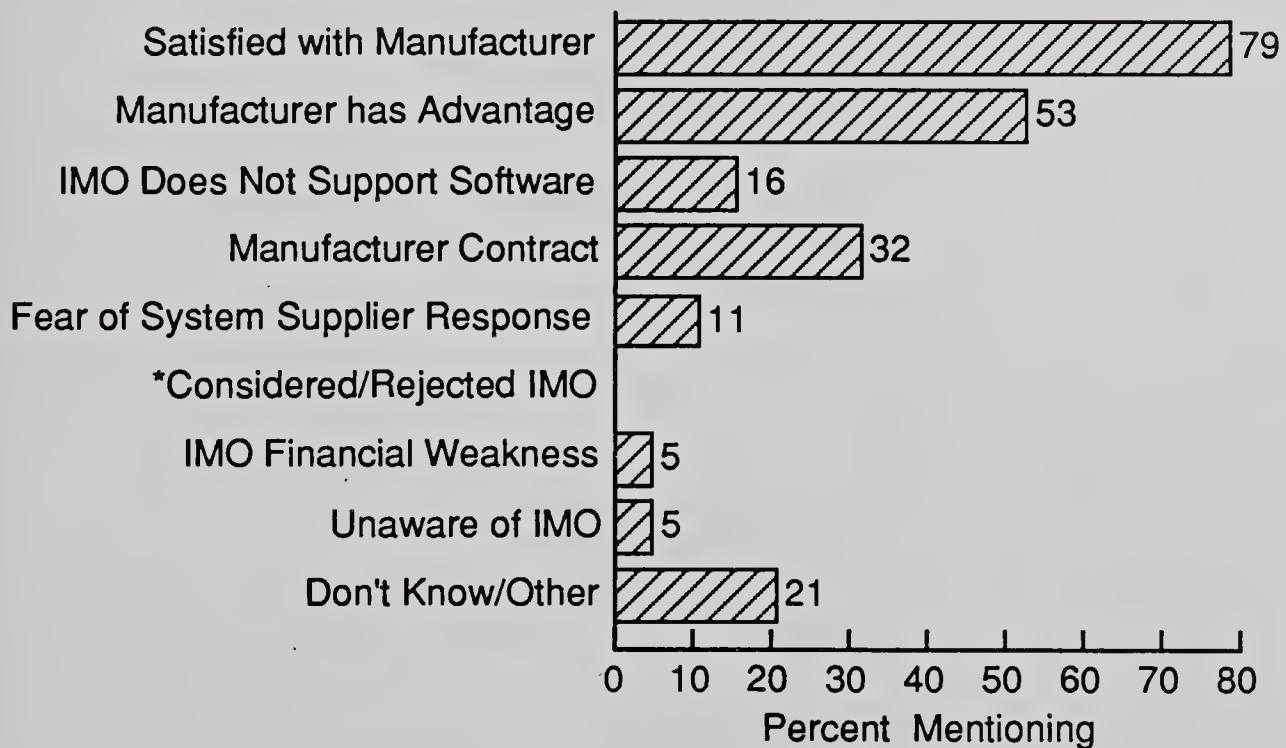
Hardware Maintenance Provider BULL HN

	Number of Mentions
Manufacturer	100
Dealer/Distributor	0
Independent Maintenance Company	0
In-house	0
Other	0

Multiple Responses Allowed
Sample: 19

EXHIBIT III-20

Reasons Independent Maintenance Company Not Used BULL HN



Multiple Responses Allowed

Sample: 19

* No respondents gave this answer

EXHIBIT III-21

**Price Reduction Required to Consider IMO
BULL HN**

Percent Discount	Percent of Respondents
1 - 10	0
11 - 20	21
21 - 30	37
31 - 40	0
41 - 50	16
50 +	0
Unwilling At Any Price	5
Other	21

EXHIBIT III-22

**Maintenance Contract Terms
BULL HN**

Hardware Maintenance	Percent of Respondents
Warranty	0
Three-Year	5
One-Year	67
Time & Materials	0
Other	28
None	0

EXHIBIT III-23

System Availability Performance Analysis BULL HN

	Mean Required	Mean Received	Percent Satisfied
System Availability (%)	97.9	98.5	79
Response Time (hrs)	1.9	1.7	95
Repair Time (hrs)	3.2	2.6	84

EXHIBIT III-24

System Failure Rates BULL HN

	U.S.	W. Europe
Mean Failures per Annum	2.1	2.4
<u>Cause of Failures</u> (Percent)		
Hardware	87	90
System Software	6	10
Application Software	4	0
Other	3	0

Sample Size: 19 (U.S.), 7 (W. Europe)

EXHIBIT III-25

Hardware Service Required versus Received BULL HN			
	Mean Ratings		
	Required	Received	Satisfaction
Spare Availability	8.7	7.7	7.7
Engineer Skills	9.2	8.7	8.7
Problem Escalation	8.4	8.3	8.6
Documentation	7.5	7.3	7.7
Remote Diagnosis	7.6	8.2	8.3

Note: Scale 0-10: 0=Lowest, 10=Highest Rating

EXHIBIT III-26

Software Maintenance Provider BULL HN		
Provided By	Percent Mentioning	
	U.S.	W. Europe
Hardware Manufacturer	95	100
Software House	0	0
Software Product Vendor	0	0
Value-Added Reseller	0	0
In-House	21	0
Other	0	0

Multiple Responses Allowed
Sample: 19 (U.S.), 7 (W. Europe)

EXHIBIT III-27

Maintenance Contract Terms BULL HN

System Software Maintenance	Percent of Respondents
Included in Software License Fee	42
Three-Year	0
One-Year	37
Custom	21
None	0

Sample: 19

EXHIBIT III-28

Software Problem Resolution BULL HN

Solved By Phone (%)	81.0
Elapsed Time (hrs)	6.8
<u>Other Problems</u>	
Response Time	
• Required (mean hrs)	9.4
• Received (mean hrs)	4.0
• Percent Satisfied	94.0
Fix Time	
• Required (mean hrs)	10.4
• Received (mean hrs)	6.2
• Percent Satisfied	88.0

EXHIBIT III-29

System Software Support Required versus Received
BULL HN

	Mean Ratings		
	Required	Received	Satisfaction
Engineer Skills	9.2	8.7	8.7
Documentation	8.5	7.6	7.7
Software Installation	6.7	7.2	7.4
Provision of Updates	7.5	8.0	8.0
Remote Diagnosis	7.9	8.0	8.1

Note: Scale 0-10: 0=Lowest, 10=Highest Rating

EXHIBIT III-30

Opportunities for Other Services BULL HN

	Number of Mentions		Mean Level of Interest
	Currently Contracted	Not Contracted But Require	
Configuration Planning	7	1	10.0
Capacity Planning	5	3	8.3
Environmental Planning	5	2	7.5
Cabling	5	0	0
Software Evaluation	5	3	8.0
Consulting	8	3	8.0
Network Planning	4	5	9.0
Network Management	4	4	9.0
Disaster Recovery	2	8	9.1
Facilities Management	2	3	8.0
Problem Management	4	0	0
Application Software Support	10	0	0

Sample: 14

EXHIBIT III-31

**Discounts Currently Received
BULL HN**

Discount	Percent Receiving	Mean Percent of Discount
Multiyear	24	23
Prepayment	29	7
Call Screening/Problem Mgmt.	6	NA
Deferred Response	6	NA

NA: Not available

EXHIBIT III-32

**User Attraction to Discount Programs
BULL HN**

Discount	Willingness	Respondents
Multiyear	3.4	12
Prepayment	3.2	11
Call Screening/Problem Mgmt.	2.7	15
Deferred Response	2.2	15

Note: Scale 0-10: 0=Lowest, 10=Highest Rating

C

CDC

There were 12 users of CDC Cyber 170 and 180 large systems in the CDC sample. The results of their interviews are presented in Exhibits III-33 through III-48.

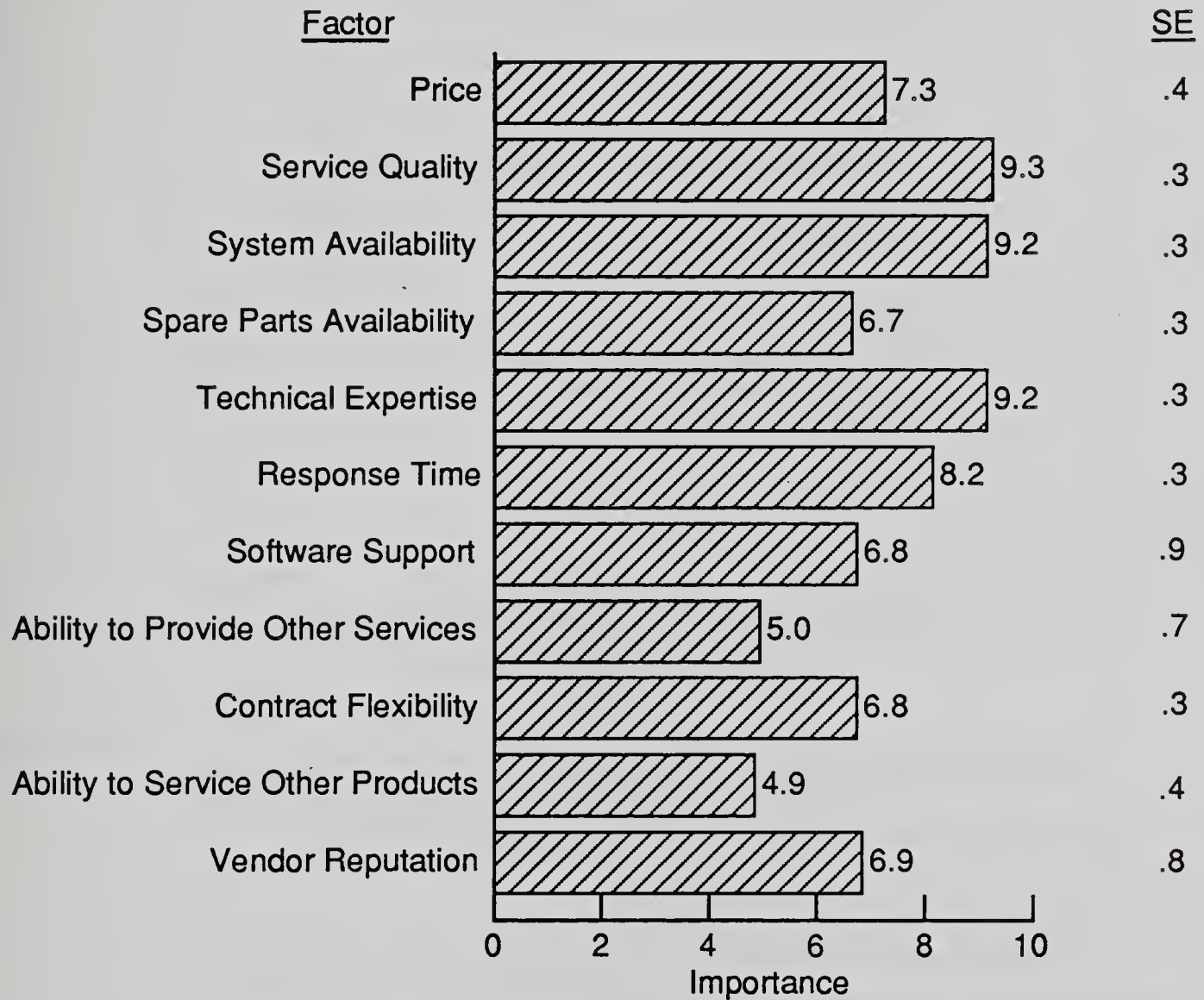
- Exhibit III-33 looks at the contract coverage that is utilized by the CDC sample and compares it to the contract coverage of the users in the 1989 sample.
- The service selection criteria reported by the CDC sample are presented in Exhibit III-34.
- Exhibits III-35 and III-36 present the providers of hardware service to the CDC sample and the reasons that the users do not utilize independent maintenance organizations.
- Exhibit III-37 presents the levels of discount required for the respondents to consider independent maintenance.
- The length of maintenance contract terms for the CDC sample is shown in Exhibit III-38.
- Traditional items of hardware maintenance are examined in Exhibits III-39 through III-41, showing mean system availability required versus received, mean system failure rates, and mean ratings for specific components of service required versus received.
- Software providers, contracts, and service required and received are examined in Exhibits III-42 through III-45.
- Opportunities for the provision of other services to the CDC sample respondents are given in Exhibit III-46, with the number of respondents currently contracting for the services, those requiring the services but not having them now, and the mean level of interest of respondents requiring the services.
- Discounts currently being received by the CDC sample are shown in Exhibit III-47, and interest in discounts is given in Exhibit III-48.

EXHIBIT III-33

Contract Coverage CDC		
	1990 Percent of Sample	1989 Percent of Sample
<u>Days Covered</u>		
Monday - Friday	58	67
Monday - Saturday	17	4
Monday - Sunday	25	29
<u>Hours Covered</u>		
1 - 9	25	58
10 - 16	33	28
17 - 24	42	14

EXHIBIT III-34

Service Vendor Selection Criteria CDC



SE: Standard Error of the Mean.

EXHIBIT III-35

Hardware Maintenance Provider CDC	
	Number of Mentions
Manufacturer	12
Dealer/Distributor	0
Independent Maintenance Company	0
In-house	1
Other	0

Multiple Responses Allowed
Sample: 12

EXHIBIT III-36

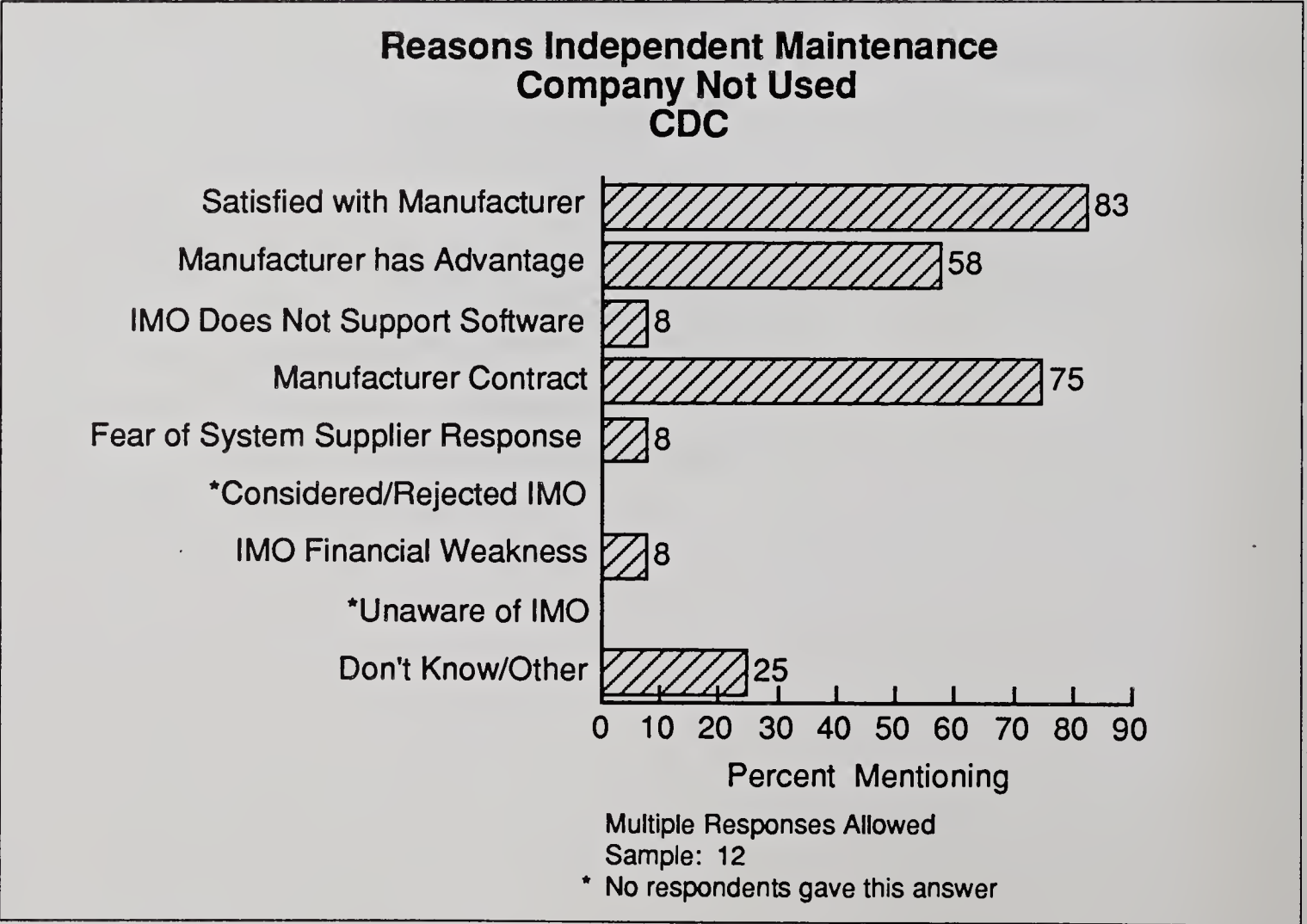


EXHIBIT III-37

Price Reduction Required to Consider IMO CDC

Percent Discount	Percent of Respondents
1 - 10	0
11 - 20	18
21 - 30	46
31 - 40	9
41 - 50	0
50 +	0
Unwilling At Any Price	9
Other	18

EXHIBIT III-38

Maintenance Contract Terms CDC

Hardware Maintenance	Percent of Respondents
Warranty	18
Three-Year	9
One-Year	55
Time & Materials	9
Other	0
None	9

EXHIBIT III-39

System Availability Performance Analysis CDC			
	Mean Required	Mean Received	Percent Satisfied
System Availability (%)	97.6	96.6	55
Response Time (hrs)	1.4	1.7	75
Repair Time (hrs)	1.7	2.5	46

EXHIBIT III-40

System Failure Rates CDC	
	U.S.
Mean Failures per Annum	5.5
<u>Cause of Failures</u> (Percent)	
Hardware	77
System Software	3
Application Software	0
Other	20
Sample Size: 11	

EXHIBIT III-41

Hardware Service Required versus Received CDC

	Mean Ratings		
	Required	Received	Satisfaction
Spare Availability	9.1	8.4	8.1
Engineer Skills	8.7	8.5	8.7
Problem Escalation	8.4	8.0	8.3
Documentation	7.4	7.3	7.5
Remote Diagnosis	5.4	6.6	7.6

Note: Scale 0-10: 0=Lowest, 10=Highest Rating

EXHIBIT III-42

Software Maintenance Provider CDC

Provided By	Percent Mentioning U.S.
Hardware Manufacturer	83
Software House	0
Software Product Vendor	8
Value-Added Reseller	0
In-House	50
Other	0

Multiple Responses Allowed
Sample: 12

EXHIBIT III-43

Maintenance Contract Terms CDC	
System Software Maintenance	Percent of Respondents
Included in Software License Fee	46
Three-Year	0
One-Year	27
Custom	18
None	9

Sample: 12

EXHIBIT III-44

Software Problem Resolution CDC	
Solved By Phone (%)	52.0
Elapsed Time (hrs)	11.7
<u>Other Problems</u>	
Response Time	
• Required (mean hrs)	15.8
• Received (mean hrs)	13.4
• Percent Satisfied	71.0
Fix Time	
• Required (mean hrs)	7.1
• Received (mean hrs)	3.6
• Percent Satisfied	75.0

EXHIBIT III-45

System Software Support Required versus Received CDC

	Mean Ratings		
	Required	Received	Satisfaction
Engineer Skills	8.4	7.9	8.1
Documentation	8.4	7.3	7.3
Software Installation	8.5	8.0	7.9
Provision of Updates	8.7	7.4	7.5
Remote Diagnosis	7.1	7.0	8.1

Note: Scale 0-10: 0=Lowest, 10=Highest Rating

EXHIBIT III-46

Opportunities for Other Services CDC

	Number of Mentions		Mean Level of Interest
	Currently Contracted	Not Contracted But Require	
Configuration Planning	3	3	5.7
Capacity Planning	3	1	9.0
Environmental Planning	3	3	7.3
Cabling	2	2	6.5
Software Evaluation	3	2	6.0
Consulting	1	2	6.0
Network Planning	1	2	10.0
Network Management	1	2	10.0
Disaster Recovery	1	3	5.7
Facilities Management	1	1	9.0
Problem Management	0	0	0
Application Software Support	6	0	0

Sample: 12

EXHIBIT III-47

Discounts Currently Received CDC

Discount	Percent Receiving	Mean Percent of Discount
Multiyear	44	11
Prepayment	44	15
Call Screening/Problem Mgmt.	11	NA
Deferred Response	0	0

NA: Not available

EXHIBIT III-48

User Attraction to Discount Programs CDC

Discount	Willingness	Respondents
Multiyear	4.3	6
Prepayment	2.4	5
Call Screening/Problem Mgmt.	3.6	7
Deferred Response	3.1	9

Note: Scale 0-10: 0=Lowest, 10=Highest Rating

D**IBM**

The IBM sample consisted of 31 users of 309X and 308X large systems.

- A high percent of the users—over 90%—reported having round-the-clock service on their large systems, as shown in Exhibit III-49.
- Vendor selection criteria is presented in Exhibit III-50, with service quality having the highest mean rating.
- The service providers listed by the sample are presented in Exhibit III-51, with the reasons why some of the sample used independent maintenance organizations to supply part or all of the service needs on the large systems.
- Reasons cited by the rest of the sample not to use independent maintenance are given in Exhibit III-53. And price reductions required to induce them to change to independent maintenance are shown in Exhibit III-54.
- Hardware maintenance contract terms are shown in Exhibit III-55.
- Traditional aspects of hardware service are presented in Exhibits III-56 through III-58, analyzing system availability, failure rates, and services required versus received.
- Information on software maintenance providers used, contract terms, problem resolution, and services required versus received are presented in Exhibits III-59 through III-62.
- Responses given by the IBM user sample on other services ancillary to the hardware maintenance are shown in Exhibit III-63. The mean level of interest in the services not currently contracted is also shown in the exhibit.
- Discounts currently being received by the IBM sample are presented in Exhibits III-64 and III-65, along with the willingness to opt for the discount program of those not receiving the discounts.

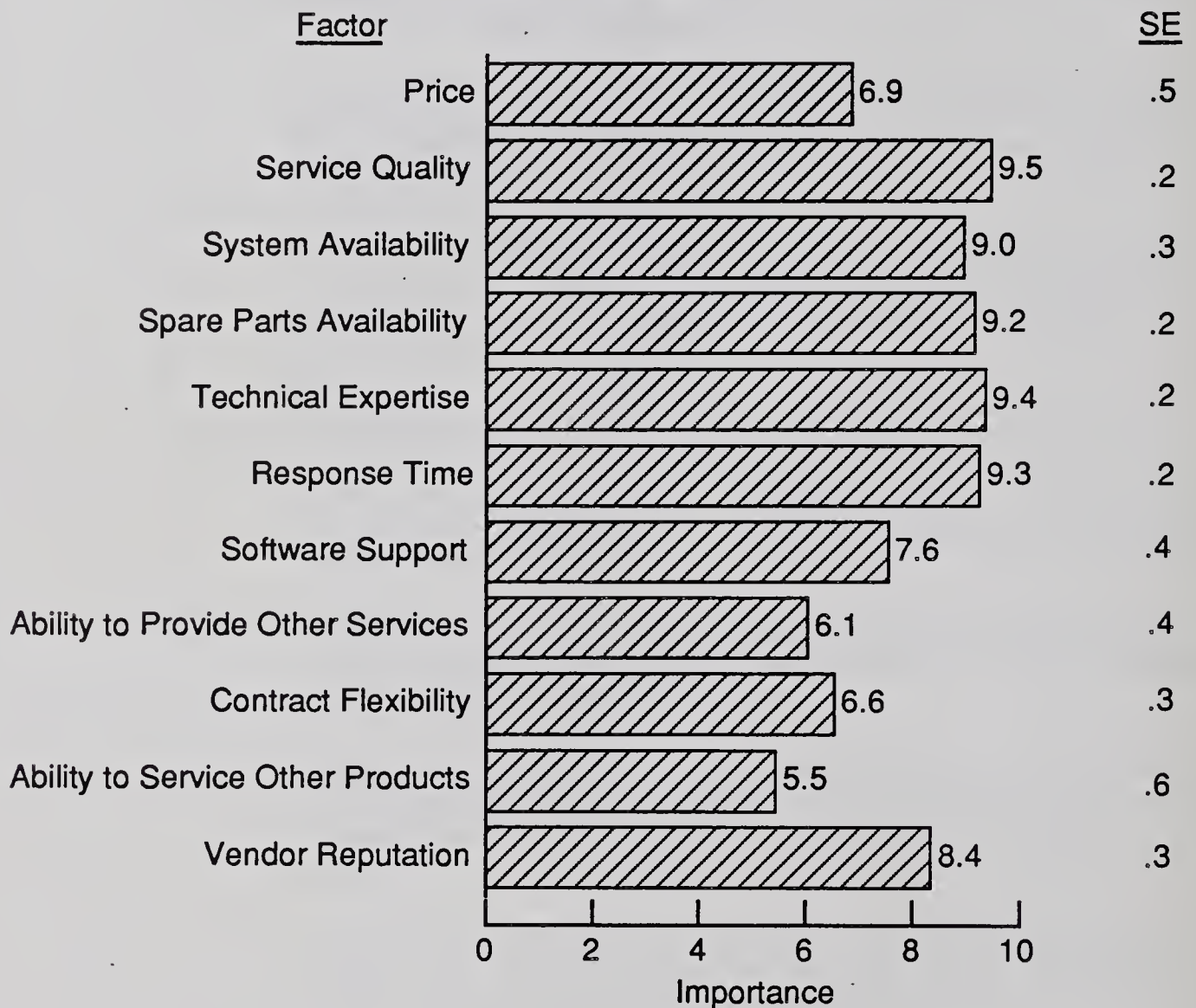
EXHIBIT III-49

**Contract Coverage
IBM**

	1990 Percent of Sample
<u>Days Covered</u>	
Monday - Friday	7
Monday - Saturday	0
Monday - Sunday	93
<u>Hours Covered</u>	
1 - 9	3
10 - 16	3
17 - 24	94

EXHIBIT III-50

Service Vendor Selection Criteria IBM



SE: Standard Error of the Mean.

EXHIBIT III-51

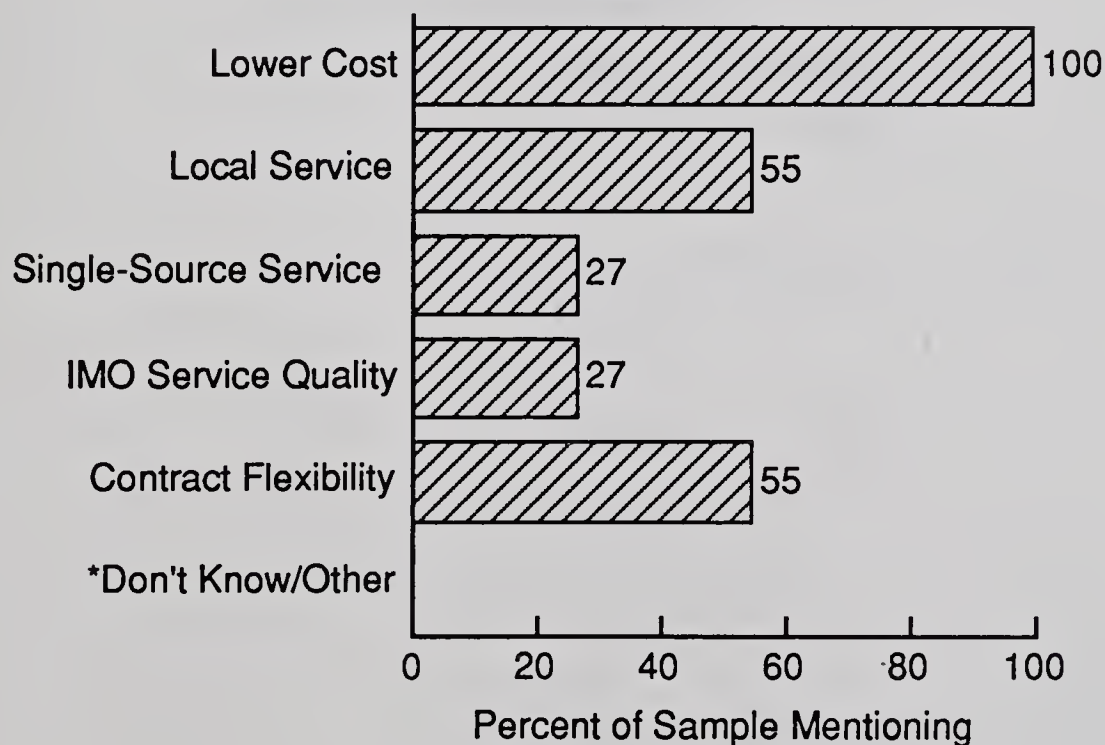
Hardware Maintenance Provider IBM

	Number of Mentions
Manufacturer	22
Dealer/Distributor	0
Independent Maintenance Company	10
In-house	0
Other	0

Multiple Responses Allowed
Sample: 31

EXHIBIT III-52

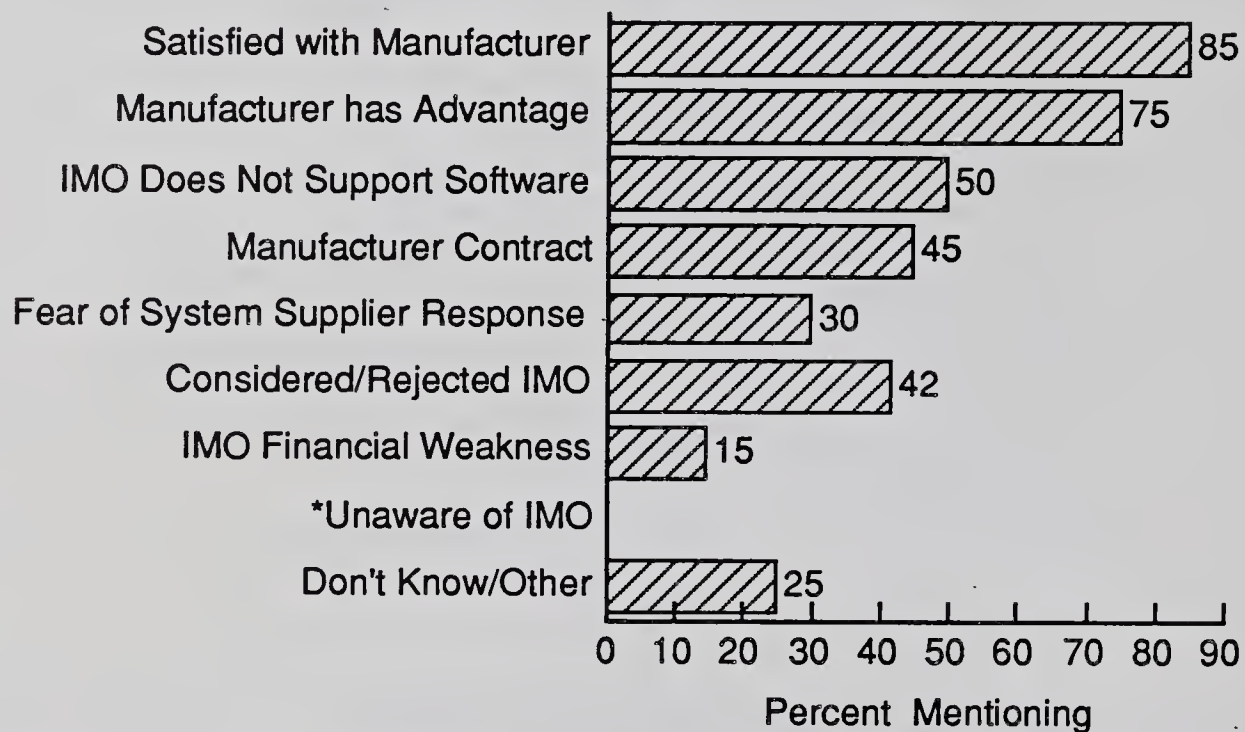
Reasons Independent Maintenance Company Use IBM



Multiple Responses Allowed
Sample: 11

* No respondents gave this answer

EXHIBIT III-53

**Reasons Independent Maintenance
Company Not Used
IBM**

Multiple Responses Allowed

Sample: 20

* No respondents gave this answer

EXHIBIT III-54

Price Reduction Required to Consider IMO IBM

Percent Discount	Percent of Respondents
1 - 10	0
11 - 20	9
21 - 30	4
31 - 40	4
41 - 50	13
50 +	9
Unwilling At Any Price	44
Other	17

EXHIBIT III-55

Maintenance Contract Terms IBM

Hardware Maintenance	Percent of Respondents
Warranty	4
Three-Year	39
One-Year	11
Time & Materials	4
Other	42
None	0

EXHIBIT III-56

System Availability Performance Analysis IBM			
	Mean Required	Mean Received	Percent Satisfied
System Availability (%)	98.7	98.2	71
Response Time (hrs)	1.6	1.1	93
Repair Time (hrs)	2.1	1.8	87

EXHIBIT III-57

System Failure Rates IBM		
	U.S.	W. Europe
Mean Failures per Annum	3.1	2.3
<u>Cause of Failures</u> (Percent)		
Hardware	52	51
System Software	9	19
Application Software	7	2
Other	32	28

Sample Size: 31 (U.S.), 43 (W. Europe)

EXHIBIT III-58

Hardware Service Required versus Received IBM

	Mean Ratings		
	Required	Received	Satisfaction
Spare Availability	9.1	8.7	8.8
Engineer Skills	9.2	8.8	8.8
Problem Escalation	9.2	8.7	8.6
Documentation	7.9	8.3	8.3
Remote Diagnosis	7.2	8.7	8.8

Note: Scale 0-10: 0=Lowest, 10=Highest Rating

EXHIBIT III-59

Software Maintenance Provider IBM

Provided By	Percent Mentioning	
	U.S.	W. Europe
Hardware Manufacturer	87	86
Software House	20	7
Software Product Vendor	40	0
Value-Added Reseller	10	2
In-House	63	16
Other	0	2

Multiple Responses Allowed

Sample: 31 (U.S.), 43 (W.Europe)

EXHIBIT III-60

Maintenance Contract Terms IBM	
System Software Maintenance	Percent of Respondents
Included in Software License Fee	69
Three-Year	12
One-Year	4
Custom	8
None	7
Sample: 31	

EXHIBIT III-61

Software Problem Resolution IBM	
Solved By Phone (%)	66.0
Elapsed Time (hrs)	13.9
<u>Other Problems</u>	
Response Time	
• Required (mean hrs)	19.8
• Received (mean hrs)	21.8
• Percent Satisfied	77.0
Fix Time	
• Required (mean hrs)	4.6
• Received (mean hrs)	5.2
• Percent Satisfied	87.0

EXHIBIT III-62

System Software Support Required versus Received IBM

	Mean Ratings		
	Required	Received	Satisfaction
Engineer Skills	8.6	7.6	7.8
Documentation	8.2	7.6	8.0
Software Installation	7.2	7.7	7.9
Provision of Updates	8.3	8.1	8.1
Remote Diagnosis	5.8	7.2	7.2

Note: Scale 0-10: 0=Lowest, 10=Highest Rating

EXHIBIT III-63

**Opportunities for Other Services
IBM**

	Number of Mentions		Mean Level of Interest
	Currently Contracted	Not Contracted But Require	
Configuration Planning	12	6	7.5
Capacity Planning	10	4	8.0
Environmental Planning	8	7	7.4
Cabling	17	2	7.5
Software Evaluation	6	5	7.0
Consulting	14	3	9.7
Network Planning	7	5	7.6
Network Management	5	4	8.0
Disaster Recovery	7	7	7.7
Facilities Management	2	1	8.0
Problem Management	7	2	6.0
Application Software Support	6	1	5.0

Sample: 28

EXHIBIT III-64

Discounts Currently Received IBM

Discount	Percent Receiving	Mean Percent of Discount
Multiyear	61	24
Prepayment	13	27
Call Screening/Problem Mgmt.	29	35
Deferred Response	10	NA

NA: Not available

EXHIBIT III-65

User Attraction to Discount Programs IBM

Discount	Willingness	Respondents
Multiyear	5.2	6
Prepayment	4.2	19
Call Screening/Problem Mgmt.	3.9	15
Deferred Response	1.5	21

Note: Scale 0-10: 0=Lowest, 10=Highest Rating

E**NCR**

The U.S. sample of NCR 93XX users consisted of 21 respondents, while the Western European sample consisted of 6 users. Unless otherwise noted, the exhibits refer to the U.S. sample only.

- Exhibit III-66 presents the contract coverage of the U.S. and Western European sample.
- Service vendor selection criteria of the NCR sample are presented in Exhibit III-67.
- Exhibit III-68 presents the hardware service providers of the NCR sample, and indicates that the majority of respondents receive their service from the manufacturer. The reasons reported by the sample for not using independent maintenance organizations are presented in Exhibit III-69, and the discounts required for the users to consider IMO service are shown in Exhibit III-70. Nineteen percent responded that they were unwilling to switch at any price to an IMO as their service provider.

Hardware maintenance contract terms are presented in Exhibit III-71, with 85% reporting having only a one year contract.

Exhibits III-72 through III-74 present an analysis of the traditional items of hardware service: system availability, system failure rates, and service requirements versus service received.

Exhibit III-75 show the types of vendors providing software service to the NCR sample, with Exhibit III-76 giving the contract terms.

Software support is analyzed in Exhibits III-77 and III-78, which examine support required versus received and the percent of respondents satisfied with the service received in each category.

Opportunities for other services are shown in Exhibit III-79, with a mean level of interest of those users not currently receiving the service.

Exhibits III-80 and III-81 present the discounts currently being received by the NCR sample and the interest in such discounts by those not currently receiving them.

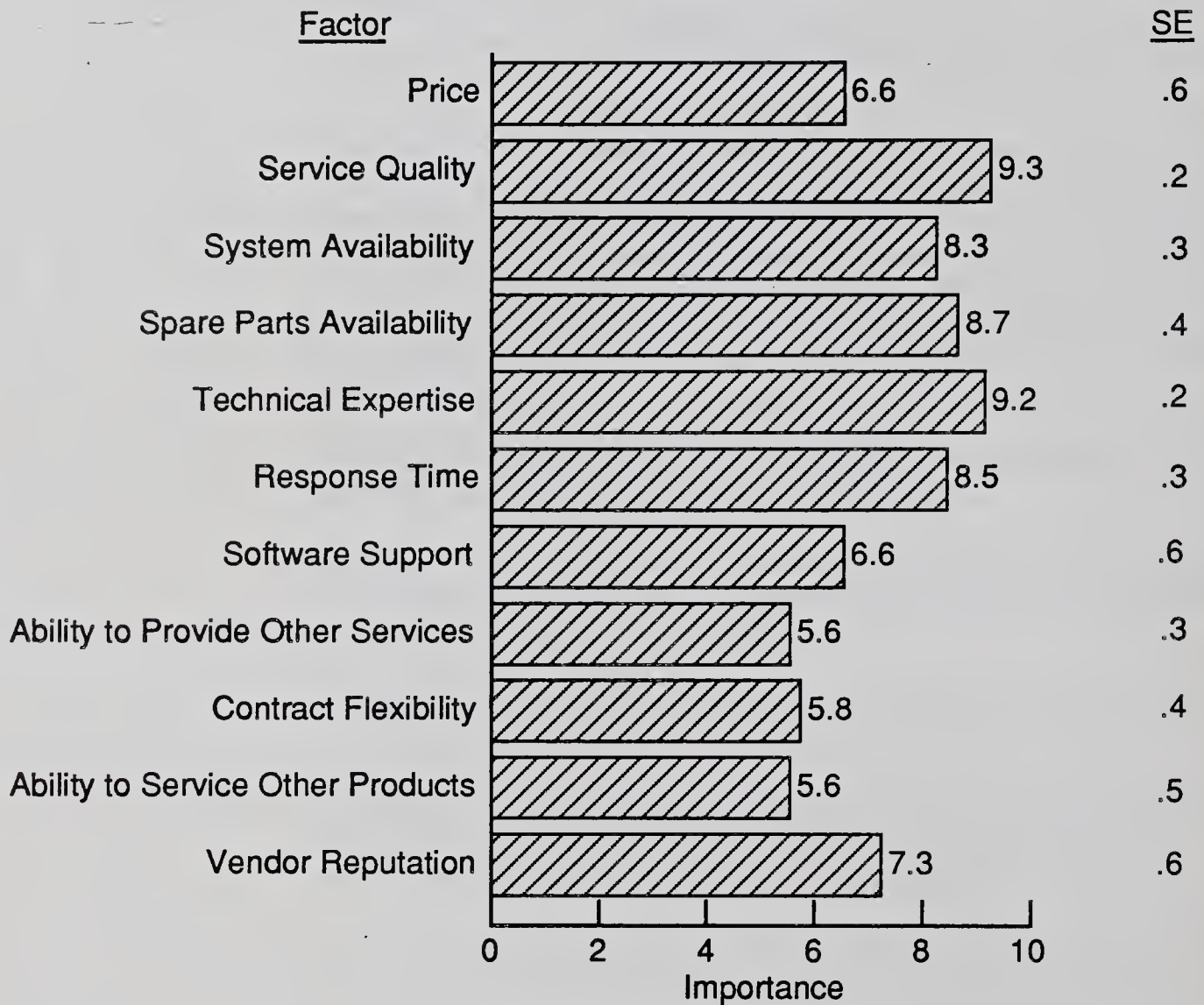
EXHIBIT III-66

Contract Coverage NCR

	1990 Percent of Sample	1989 Percent of Sample
<u>Days Covered</u>		
Monday - Friday	86	73
Monday - Saturday	5	0
Monday - Sunday	9	27
<u>Hours Covered</u>		
1 - 9	86	70
10 - 16	0	3
17 - 24	14	27

EXHIBIT III-67

Service Vendor Selection Criteria NCR



SE: Standard Error of the Mean.

EXHIBIT III-68

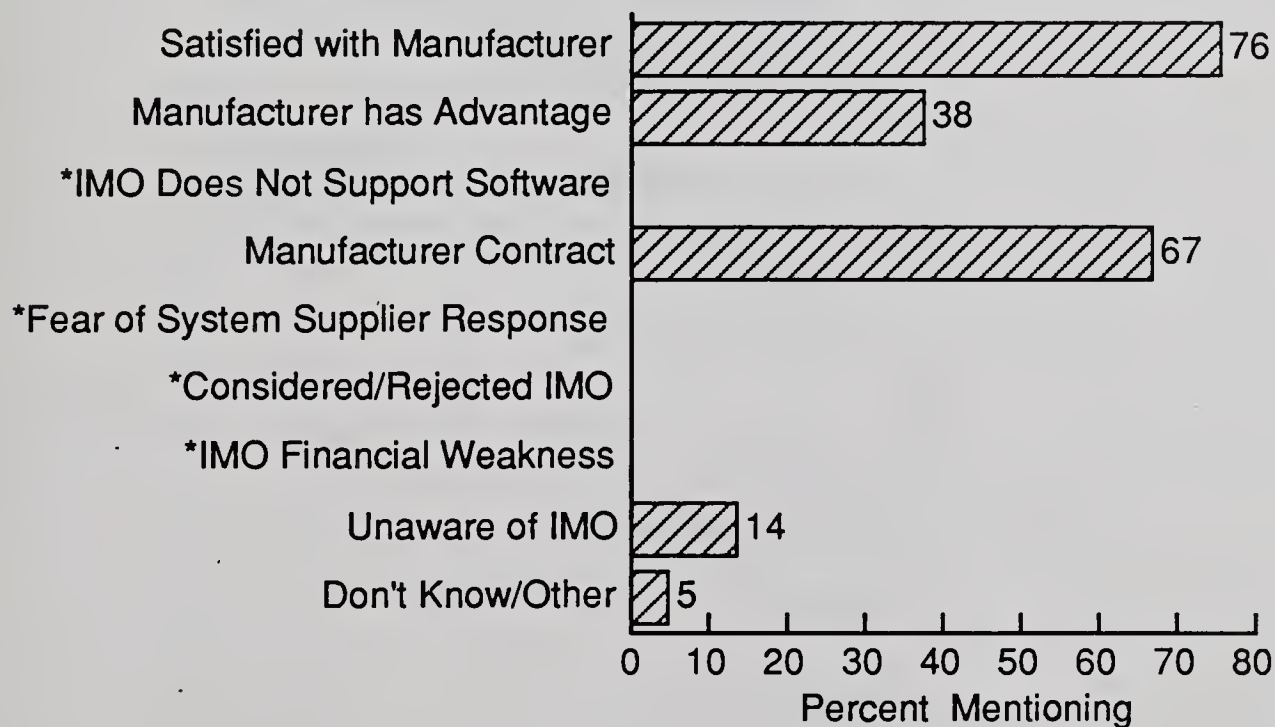
Hardware Maintenance Provider NCR

	Number of Mentions
Manufacturer	21
Dealer/Distributor	0
Independent Maintenance Company	0
In-House	2
Other	0

Multiple Responses Allowed
Sample: 21

EXHIBIT III-69

Reasons Independent Maintenance Company Not Used NCR



Multiple Responses Allowed
Sample: 21

* No respondents gave this answer

EXHIBIT III-70

**Price Reduction Required to Consider IMO
NCR**

Percent Discount	Percent of Respondents
1 - 10	5
11 - 20	10
21 - 30	19
31 - 40	9
41 - 50	14
50 +	5
Unwilling At Any Price	19
Other	19

EXHIBIT III-71

**Maintenance Contract Terms
NCR**

Hardware Maintenance	Percent of Respondents
Warranty	0
Three-Year	5
One-Year	85
Time & Materials	5
Other	5
None	0

EXHIBIT III-72

System Availability Performance Analysis NCR

	Mean Required	Mean Received	Percent Satisfied
System Availability (%)	98.0	95.8	48
Response Time (hrs)	2.2	3.8	61
Repair Time (hrs)	2.8	3.6	83

EXHIBIT III-73

System Failure Rates NCR

	U.S.	W. Europe
Mean Failures per Annum	1.7	5.3
<u>Cause of Failures</u> (Percent)		
Hardware	75	82
System Software	5	18
Application Software	4	0
Other	16	0

Sample Size: 21 (U.S.), 6 (W. Europe)

EXHIBIT III-74

Hardware Service Required versus Received NCR			
	Mean Ratings		
	Required	Received	Satisfaction
Spare Availability	8.8	8.4	8.8
Engineer Skills	9.2	8.6	8.6
Problem Escalation	7.0	8.0	8.2
Documentation	7.3	7.0	7.4
Remote Diagnosis	7.4	7.5	8.1

Note: Scale 0-10: 0=Lowest, 10= Highest Rating

EXHIBIT III-75

Software Maintenance Provider NCR		
Provided By	Percent Mentioning	
	U.S.	W. Europe
Hardware Manufacturer	67	83
Software House	10	0
Software Product Vendor	10	0
Value-Added Reseller	0	0
In-House	33	17
Other	0	0

Multiple Responses Allowed
Sample: 21 (U.S.), 6 (W.Europe)

EXHIBIT III-76

Maintenance Contract Terms NCR

System Software Maintenance	Percent of Respondents
Included in Software License Fee	45
Three-Year	0
One-Year	33
Custom	11
None	11

Sample: 18

EXHIBIT III-77

Software Problem Resolution NCR

Solved By Phone (%)	78.0
Elapsed Time (hrs)	3.0
<u>Other Problems</u>	
Response Time	
• Required (mean hrs)	9.7
• Received (mean hrs)	2.6
• Percent Satisfied	92.0
Fix Time	
• Required (mean hrs)	7.8
• Received (mean hrs)	5.1
• Percent Satisfied	82.0

EXHIBIT III-78

**System Software Support Required versus Received
NCR**

	Mean Ratings		
	Required	Received	Satisfaction
Engineer Skills	8.8	8.2	7.9
Documentation	8.5	7.4	7.5
Software Installation	7.4	8.1	8.1
Provision of Updates	8.3	7.8	7.8
Remote Diagnosis	7.6	8.1	8.4

Note: Scale 0-10: 0=Lowest, 10=Highest Rating

EXHIBIT III-79

Opportunities for Other Services NCR

	Number of Mentions		Mean Level of Interest
	Currently Contracted	Not Contracted But Require	
Configuration Planning	5	2	8.5
Capacity Planning	3	2	8.5
Environmental Planning	2	3	7.7
Cabling	5	5	7.6
Software Evaluation	3	5	7.8
Consulting	7	2	6.0
Network Planning	1	5	5.6
Network Management	1	4	8.0
Disaster Recovery	6	5	6.8
Facilities Management	0	3	8.3
Problem Management	5	4	6.3
Application Software Support	9	2	7.5

Sample: 21

EXHIBIT III-80

Discounts Currently Received NCR		
Discount	Percent Receiving	Mean Percent of Discount
Multiyear	0	0
Prepayment	19	7.7
Call Screening/Problem Mgmt.	5	NA
Deferred Response	0	0

NA: Not available

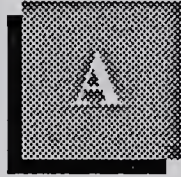
EXHIBIT III-81

User Attraction to Discount Programs NCR		
Discount	Willingness	Respondents
Multiyear	4.0	17
Prepayment	3.1	13
Call Screening/Problem Mgmt.	3.2	16
Deferred Response	3.1	17

Note: Scale 0-10: 0=Lowest, 10=Highest Rating



Appendix: User Questionnaire



Appendix: User Questionnaire

A

General

1. What is the make and model number of the main computer on your site and how many do you have?

Make _____

Model _____ (CRITICAL INFORMATION)

Units _____

2. Are you the person who is knowledgeable on the servicing of this system?
____ Yes ____ No

(If not then obtain the name of the correct person and start again.)

Name of person responsible _____

3. Do you have another system? What is the make and model number of that system and how many do you have?

Make _____

Model _____ (CRITICAL INFORMATION)

Units _____

All of the following questions that I am going to ask you are related to your
_____ system. (Write in system type.)

(To confirm, read out the make and model number.)

4. So that we can ensure that we get a proper cross-section of industry and commerce, can you tell me what is the main business sector of your company? (Read out the list to allow for best choice. Then circle appropriate answer.)

Business sector

- Manufacturing 1
- Distribution 2
- Transportation 3
- Utilities 4
- Banking and Finance 5
- Insurance 6
- Government 7
- Services 8
- Other/Don't Know 9

B

Service Vendor Selection

I would like to ask you some questions relating to the vendor that services your computer system.

5. Could you please rate the importance of the following criteria in selecting your service vendor, on a scale of 0 to 10 (0 = low, 10 = high).

<u>Criteria</u>	<u>Rating</u>
a. Price	_____
b. Quality of service	_____
c. Guaranteed system availability level	_____
d. Guaranteed availability of spare parts	_____
e. Technical expertise	_____
f. Fast response time	_____
g. Availability of software support	_____
h. Ability to provide other services	_____
i. Contract flexibility	_____
j. Ability to service other products	_____
k. Vendor reputation	_____

- 6a. Would you please tell me who services your computer system hardware? (Remind the user _____ system.)

(Please circle appropriate vendor type; multiple answers are allowed.)

- Manufacturer 1
- Dealer/distributor 1
- Third-party maintenance company 1
- Own company 1
- Other 1

(If the respondent answered YES to third-party maintenance, ask the following question. If not, go to question 7.)

- 6b. I notice that your system, or part of it, is serviced by a third-party maintenance company. Could you tell me the reason why you use third-party maintenance?

(Please circle appropriate answer; multiple answers allowed.)

- Lower cost 1
- Local service 1
- Single-source service 1
- TPM service higher quality 1
- More flexible contract 1
- Other/Don't know 9

- 7a. I notice that you *do not* use a third-party maintenance company; is there a reason for this?

(Please circle appropriate answer; multiple answers allowed.)

- Satisfied with manufacturer 1
- Manufacturer has an advantage 1
- TPM cannot support software 1
- Tied to manufacturer with contract 1
- Fear of system supplier response 1
- Considered and rejected TPM 1
- TPM financial weakness 1
- Unaware of TPM 1
- Other/Don't know 9

- 7b. Assuming you were approached by a TPM company, at what level of price reduction would you consider using a TPM vendor to service your computer hardware?

(Please circle appropriate answer. Only one answer allowed.)

- 1% - 10% 1
- 11% - 20% 1
- 21% - 30% 1
- 31% - 40% 1
- 41% - 50% 1
- 50%+ 1
- Unwilling at any price 1
- Other/Don't know 9

8. How important is it that your service vendor communicates with you regularly and effectively to advise you of, for example:

- | | | |
|-------------------------------------|---|-------------|
| _____ The status of your system | > | |
| _____ Possible problems | > | |
| _____ Repair plans | > | INTERVIEWER |
| _____ Availability of spare parts | > | PROMPTS |
| _____ Routine visits | > | |
| _____ Hardware and software changes | > | |

Could you please provide an importance and satisfaction rating on a scale of 0 to 10, where 0 is of no importance or indicates total dissatisfaction, and 10 is at top importance or indicates full satisfaction.

- Importance _____
- Satisfaction _____

- 9a. Would you prefer all hardware maintenance and software support to be provided by one service vendor at each site? If yes, what would your interest level be?

(Circle answer.)

Yes 1
 No 1
 Don't know 9

Level of interest: (please circle)

Low Medium High

(If the respondent answered YES, ask:)

- 9b. Who would you prefer that vendor to be?

(Please circle appropriate answer; multiple answers allowed.)

- The manufacturer of your main hardware 1
- Dealer/distributor/VAR 1
- TPM company 1
- One of your hardware manufacturers 1
- Other/don't know 9

Note: VAR is a value-added reseller.

C

Hardware Maintenance

I would now like to ask you some questions about the hardware maintenance of your computer system. (Reaffirm the system type _____)

Some of the questions are scaled with ratings from 0 to 10. Zero (0) represents zero importance or satisfaction, 5 is average, and 10 represents top importance or full satisfaction.

10. What is your rating for the importance of hardware maintenance to your business and how satisfied are you with your service vendor's performance?

- Importance rating _____
- Satisfaction rating _____

11. If we define **systems availability** as the percentage of your normal working hours that the system is operational (disregarding non-critical peripheral breaks), what percentage has that been for your system over the last twelve months?

• Percentage _____%

12. How many times each year does your system fail completely for a period of greater than one hour?

• Per year _____

And what percentage of these system failures are due to:

Hardware	_____%
Systems software	_____%
Applications software	_____%
Other (i.e., power failure)	_____%

(Please check that percentages add up to 100.)

13. What is your rating for the importance of **systems availability** (scale 0 - 10), and what is your level of satisfaction?

• Importance rating _____

• Satisfaction rating _____

14. Defining **hardware response time** as the time it takes between reporting a fault and the arrival of the service engineer on site (in working hours, that is to say 8 hours = 1 working day), what response time (in hours) do you find acceptable and what did you actually experience as an average over the last twelve months?

• Acceptable _____ Hours

• Experienced _____ Hours

15. If **repair time** is defined as the time taken to get the system fully operational from the time the engineer arrives on site, then what time do you find acceptable (in working hours) and what time did you experience in the last twelve months?

(Note: 8 hours = 1 working day/shift)

• Acceptable _____ Hours

• Experienced _____ Hours

16. I would now like to go through a list of five aspects of hardware maintenance and ask you to give an importance and satisfaction rating for each (scale 0 - 10).

	<u>Importance</u>	<u>Satisfaction</u>
• Spares availability	_____	_____
• Engineer skills	_____	_____
• Problem escalation	_____	_____
• Documentation	_____	_____
• Remote diagnostics	_____	_____

17. How important is it that your system supplier provides a hardware **consultancy/planning** service to support your operations and how satisfied are you with the service provided? (Scale 0 - 10)

- Importance _____
- Satisfaction _____

18. If possible, I would like you to provide some information on hardware maintenance pricing.

- a. What percentage price increase or decrease did you pay for hardware maintenance in the year 1989?

- Increase _____%
- Decrease _____%
- No change 1 (circle)

- b. What do you expect the price changes for hardware maintenance to be in the future, in percentage terms per annum?

- Increase _____%
- Decrease _____%
- No change 1 (circle)

- c. How important do you rate hardware maintenance pricing and how satisfied are you with the price you currently pay? (Scale 0 - 10)

- Importance rating _____
- Satisfaction rating _____

19. Which type of hardware maintenance contract do you currently have on the main part of your system?

(Please circle appropriate answer; only one answer allowed.)

- Warranty 1
- Three-year 1
- One-year 1
- Time and materials 1
- None 1

D

Software Support

I would like to ask you some questions relating to the service you get from your software support vendor.

These questions relate to systems software—not applications.

As before, some of the questions are scaled with ratings from 0 to 10. Zero (0) represents zero importance or satisfaction, 5 is average and 10 is top importance or full satisfaction.

20. Who supports your systems software?

(Please circle appropriate answer; multiple answers allowed.)

- Hardware manufacturer 1
- Software house 1
- Software product vendor 1
- Value-added reseller (VAR) 1
- In-house 1
- Other/Don't know 9

21. What is your rating for the importance of systems software support to your business and what is your satisfaction with your vendor's systems support activities? (Scale 0 - 10)

- Importance rating _____
- Satisfaction rating _____

22. What percentage of systems software problems are solved by telephone, and how long does this take in elapsed time from the time it is alerted to the service engineer?

- Solved by phone _____ %
- Elapsed time _____ Hours

23. For those problems not possible to solve over the telephone, what **response time** would you find acceptable, and what time (on average and in working hours) have you experienced over the last twelve months? (Take **response time** to mean from the time the problem is reported to the arrival of the engineer on site.)

- Acceptable _____ Hours
- Experienced _____ Hours

24. If **fix time** is defined as the time taken to get the system fully operational from the arrival of the engineer on site, then what time (in working hours) do you find acceptable, and what did you experience over the last twelve months?

- Acceptable _____ Hours
- Experienced _____ Hours

25. I would like to go through a list of five aspects of **systems software support** and ask you to give an importance and a satisfaction rating for each. (Scale 0 - 10)

	<u>Importance</u>	<u>Satisfaction</u>
• Engineer skills	_____	_____
• Documentation	_____	_____
• Software installation	_____	_____
• Provision of updates	_____	_____
• Remote diagnostics	_____	_____

26. How important is it that your system supplier provides a **systems software consultancy/ planning service** to support your operations and how satisfied are you with the service provided? (Scale 0 - 10)

- Importance rating _____
- Satisfaction rating _____

27. If possible I would like you to provide some information on **systems software support pricing**.

- a. What percentage price increase or decrease did you pay for systems software support in the year 1989?

- Increase _____ %
- Decrease _____ %
- No change 1 (circle)

b. What do you expect the price changes for systems software support to be in the future, in percentage terms per annum?

- Increase _____%
- Decrease _____%
- No change 1 (circle)

c. How important do you rate systems software support pricing and how satisfied are you with the price you currently pay? (Scale 0 - 10)

- Importance rating _____
- Satisfaction rating _____

28. Which type of systems software support contract do you currently have?

(Please circle appropriate answer. Only one answer allowed.)

- Support included in software license fee 1
- Three-year contract 1
- One-year contract 1
- Ad hoc 1
- None 1

E

Other Services

29. To conclude this questionnaire, I am particularly interested in obtaining your views on other services or modified current service offerings that your service suppliers could provide that would help to improve the running of your computer systems.

Could you say which of the following services your service vendor is currently contracted to supply and which you would like your service vendor to provide? Also, could you give a level of interest rating against each in the range 0 to 10, where 0 = no interest, 5 = average interest and 10 = must have?

(Please circle appropriate answer and give LOI rating.)

	<u>Currently Contracted</u>	<u>Require</u>	<u>LOI</u>
• Configuration planning	1	1	_____
• Capacity planning	1	1	_____
• Environmental planning	1	1	_____
• Cabling	1	1	_____
• Software evaluation	1	1	_____
• Consultancy	1	1	_____
• Network planning	1	1	_____

29. (cont.)

	<u>Currently Contracted</u>	<u>Require</u>	<u>LOI</u>
• Network management	1	1	_____
• Disaster recovery	1	1	_____
• Facilities management	1	1	_____
• Problems management	1	1	_____
• Applications software support	1	1	_____

These last questions complete the questionnaire. I would like to thank you on behalf of INPUT for helping us to complete this survey. To express our appreciation for your time we will be sending you a "thank you" package containing a summary of the results from our survey.

Again, thank you for your time.

Report Quality Evaluation

To our clients:

To ensure that the highest standards of report quality are maintained, INPUT would appreciate your assessment of this report. Please take a moment to provide your evaluation of the usefulness and quality of this study. When complete, simply fold, staple, and drop in the mail. Postage has been pre-paid by INPUT if mailed in the U.S.

Thank You.

1. Report title: ***U.S. Large System User Requirements, 1990*** (FCULO)
2. Please indicate your reason for reading this report:

<input type="checkbox"/> Required reading	<input type="checkbox"/> New product development	<input type="checkbox"/> Future purchase decision
<input type="checkbox"/> Area of high interest	<input type="checkbox"/> Business/market planning	<input type="checkbox"/> Systems planning
<input type="checkbox"/> Area of general interest	<input type="checkbox"/> Product planning	<input type="checkbox"/> Other _____
3. Please indicate extent report used and overall usefulness:

	Extent		Usefulness (1=Low, 5=High)				
	Read	Skimmed	1	2	3	4	5
Executive Overview.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Complete report	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Part of report (____ %)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. How useful were:

Data presented	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Analyses.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Recommendations.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. How useful was the report in these areas:

Alert you to new opportunities or approaches.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Cover new areas not covered elsewhere.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Confirm existing ideas.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Meet expectations.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Which topics in the report were the most useful? Why? _____

7. In what ways could the report have been improved? _____

8. Other comments or suggestions: _____

Name _____	Title _____
Department _____	
Company _____	
Address _____	
City _____	State _____ ZIP _____
Telephone _____	Date completed _____

Thank you for your time and cooperation.

M&S 633/01 12/89

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